



**Fiscal Year 2014  
STATE CLEAN DIESEL GRANT PROGRAM  
Virginia DEQ DERA3 Project**

**SUMMARY PAGE**

Project Title:	Virginia DEQ DERA3 Project
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**Project Manager and Contact Information**

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**Project Budget**

	<b>FY 2015</b>
EPA base allocation	\$94,435
State match (if applicable)	
EPA match incentive (if applicable)	
Additional leveraged resources	
<b>TOTAL Project</b>	<b>\$94,435</b>

**Project Period**

October 1, 2014 to September 30, 2015.

**Summary Statement**

<b>FY 2014:</b> Provide financial incentives for participants in the Virginia Port Authority (Port Authority) "Green Operator" Program to install diesel retrofit devices to reduce emissions from carriers registered with the Port Authority.
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## SCOPE OF WORK

### **Project Description**

#### ***A. Overview***

The Virginia Department of Environmental Quality (VA DEQ) will administer the Virginia DEQ DERA3 Project through a subagreement with the Mid-Atlantic Regional Air Management Association, Inc. (MARAMA). MARAMA has unique capabilities to conduct this project.

The project is a continuation of the Clean Diesel Outreach and SmartWay Initiative begun in FY 2008. In FY 2014, the initiative will continue to provide financial incentives, rebates, for participants in the Virginia Port Authority “Green Operators” (GO) Program, which encourages truck companies and individual owner/operators serving the Port to install verified diesel retrofit devices to reduce emissions.

The Virginia Port Authority will continue to publicize the program and ensure that companies selected to receive the incentives are Green Operators. MARAMA will accept and review applications from truck companies and individual owner/operators and execute agreements with eligible applicants for retrofits with verified technologies.

Program funds will be disbursed to qualified participants through reimbursement of eligible documented expenses.

**Objective:** Approximately \$71,723 will be used to provide rebates of up to \$6,000 per vehicle to offset the cost to purchase and install verified emission control devices. A total of approximately 12 dray trucks will be retrofitted in FY2014.

#### ***B. Expected Emissions Reductions***

Based on the Diesel Emission Quantifier, VA DEQ expects the following annual and lifetime emission reductions from the Virginia DEQ DERA3 Project:

#### **FY2014 Total Emissions Reductions Diesel Oxidation Catalysts + Closed Crankcase Ventilation**

Reductions	PM	HC	CO
Annual (tons)	0.2082	0.4113	2.1083
Lifetime (tons)	3.3314	6.5815	33.7333

### **C. General Air Quality Description**

In the Mid-Atlantic Region, high levels of PM<sub>2.5</sub> and ozone may be experienced in industrial, urban, or rural areas due to the diversity of sources affecting concentrations. EPA's 2002 Health Assessment Document for Diesel Engine Exhaust links emissions from older diesel engines to premature deaths, heart attacks, childhood asthma, and increased emergency room and hospital visits.

This project will focus on the Norfolk-Virginia Beach-Newport News (Hampton Roads) area but will also benefit other areas of the Commonwealth of Virginia that experience high drayage truck traffic. The Hampton Roads area was once designated as a marginal nonattainment area for the 1997 Ozone NAAQS and was redesignated to attainment/maintenance for this standard in 2007. The area was designated attainment/unclassifiable for the 2008 Ozone NAAQS (77FR 30088, 5/12/2012). The designation for the 2008 Ozone NAAQS was based on a design value of 72 ppb ozone. To help ensure continued compliance with the 2008 Ozone NAAQS, and to prepare for any future Ozone NAAQS, the Hampton Roads area is participating in the Ozone Advance program and has created a voluntary action plan designed to reduce ozone precursors such as hydrocarbon emissions. The action plan may be found at <http://www.deq.virginia.gov/Portals/0/DEQ/Air/Planning/hrpln1.pdf>. The VPA Green Operator program is discussed in Section 3.1.1 of the Action Plan.

### **D. Timeline**

The following preliminary timeline provides an overview of implementing the project.

	Q1	Q2	Q3	Q4
GO Retrofits FY 2014	Establish subagreement with MARAMA and publicize availability of rebates.	Work with participants to install technology & process payments.	Work with participants to install technology & process payments.	Work with participants to install technology & process payments. Draft final report and initiate grant closeout, if the grant is not to be extended for FY2015.

### **E. Disbursement Methodology**

Disbursements are made as reimbursements to the Project participants following receipt, review, and approval by MARAMA of documentation of the purchase and installation of a verified diesel emission device. Reimbursements are limited to no more than \$6,000 per vehicle.

## **Program Priorities**

### **A. *Maximize Public Health Benefits***

Emissions from dray trucks can contribute to serious public health and environmental challenges at ports and in surrounding communities. EPA estimates the useful lifetime of trucks used in drayage to be 30 years. Reducing diesel emissions from trucks serving the Port of Virginia by installing diesel emission reduction technology is expected to result in a positive impact on public health.

In addition, the VPA Green Operator program is included in the Hampton Roads Ozone Advance action plan, which outlines strategies designed to take proactive steps toward reducing ozone precursor emissions, and thereby help to ensure air quality continues to comply with the 2008 Ozone NAAQS. This action plan is also a good framework for planning to meet any future Ozone NAAQS. Ensuring that the area complies with federal NAAQS standards helps ensure that the citizens breathe healthy air.

### **B. *Cost Effectiveness***

Retrofitting existing dray trucks is a cost effective way to reduce diesel emissions from the vicinity of ports, and supplements efforts already undertaken by the Port of Virginia to publicize the SmartWay program and to encourage participation of trucking companies. The Project addresses needs voiced by potential program participants for incentives to help defray the cost of emission control equipment.

### **C. *Benefit areas of high population density and with air quality issues***

The Port of Virginia activities generate significant diesel truck traffic in the surrounding metropolitan area. The goals of this project are to reduce impacts of diesel particulate emissions and to prevent the deterioration of air quality in the Port's metropolitan area. As part of the Ozone Advance action plan, this program will reduce emissions of ozone precursors, helping to ensure that the area continues to meet the 2008 Ozone NAAQS and any future ozone NAAQS set by the EPA Administrator.

### **D. *Benefit areas such as truck stops, ports, rail yards, terminals, and distribution centers.***

The GO project support targets trucks that serve the Virginia Port Authority facilities and the distribution terminals to which they haul freight.

### **E. *Include a certified engine configuration or verified technology that has a long expected useful life.***

The Virginia DEQ DERA3 Project will use information learned from VA DEQ's Clean Diesel Outreach and SmartWay initiative from FY 2008 – FY 2013. This grant provides

rebates for only retrofit technologies that are EPA and/or CARB certified/verified. The Clean Diesel Outreach and SmartWay initiative provided useful lessons about the use of Diesel Particulate Filters, Diesel Multi-Stage Filters, and Diesel Oxidation Catalysts on dray trucks. For example, some filters were too big for the space available on a certain make of dray tractor. While the Diesel Particulate Filter might have been a more effective emission reduction choice, it was not an option due to size limitations. Further, the needed temperature profiles for the use of Diesel Particulate Filters or Diesel Multistage Filters were not met on dual exhaust tractors. Therefore the only option for these tractors was the use of Diesel Oxidation Catalysts with a Closed Crankcase ventilation system. Such information is useful in assisting carriers to select the appropriate technology.

***F. Maximize the useful life of technology funded.***

Technologies included in the Project are covered by performance and emissions warranties that meet or exceed warranty requirements for retrofit verification coverage. Proof of warranty is required for rebate disbursement for retrofits.

***G. Conserve diesel fuel.***

While this project will not directly reduce the use of diesel fuel, the Virginia Port Authority Outreach is investigating the possibility of opening a gate dedicated to Green Operators at one of its facilities. Such a gate would likely reduce idle time for these trucks, which would conserve diesel fuel.

***H. Overall Deliverables***

- Quarterly progress reports.
- A total of approximately 12 dray trucks will be retrofitted in FY 2014.
- Emission reduction estimates based on the fleet retrofitted using the Diesel Emissions Quantifier.

**Strategic Plan Linkage and Anticipated Outcomes/Outputs**

***A. Linkage to EPA Strategic Plan.***

This project will support Goal 1 of EPA's 2014-2018 Strategic Plan, "Addressing Climate Change and Improving Air Quality." In addition, this project will support EPA's Cross-Agency Strategy, "Working to Make a Difference in Communities." Projects funded under the Virginia DEQ DERA3 Project meet the goal of improving air quality by reducing PM, HC, and CO emissions from diesel fleets, thereby reducing local and regional air pollution.

## **B. Outputs.**

- Provide rebates to retrofit a total of approximately 12 vehicles in FY2014.
- Report on emission reductions from the Project via the Final Report.

Progress toward the environmental goal will be tracked and measured during the assistance agreement period by maintaining input information for the Diesel Emission Quantifier information from the approved applications. The quarterly reports to EPA will provide the status and progress of the retrofit activities.

## **C. Outcomes.**

Expected outcomes from this program may include but are not limited to the following:

### **Short-term outcomes**

- Increased understanding of the environmental and economic effectiveness of the implemented technology.
- Increased number of clean carriers serving the Virginia Port Authority facilities.

### **Medium-term outcomes**

- Growing interest and willingness by fleets to deploy diesel emission reduction technology.
- Increased capacity by Virginia fleets to deploy diesel emission reduction technology.
- Documented emission reductions from the retrofit of dray trucks.

### **Long-term outcomes**

- Improvements to local air quality. Decreased emissions and exposure to diesel emissions.

## **Project Partners**

DEQ's primary partner in the Virginia DEQ DERA3 Project will be MARAMA. The Virginia Port Authority will also play a role in this project.

**MARAMA** is a voluntary, non-profit association of ten state and local air pollution control agencies in the Mid-Atlantic region. Its mission is to strengthen the skills and capabilities of member agencies and to help them work together to prevent and reduce air pollution impacts in the Mid-Atlantic Region. In addition to the Commonwealth of Virginia, the following State and Local governments are MARAMA members: Delaware, the District of Columbia, Maryland, New Jersey, North Carolina, Pennsylvania, West Virginia, Philadelphia, and Allegheny County,

Pennsylvania. MARAMA is governed by a Board of Directors consisting of the ten air directors from MARAMA member jurisdictions. The director of Virginia's air program is a permanent member of the MARAMA Board of Directors. MARAMA meets EPA requirements for receiving grant awards and has been funded almost 100% by EPA grants since 1992. MARAMA is experienced in providing staff support for projects to reduce diesel emissions and has assisted the Mid-Atlantic Diesel Collaborative (MDC) in publicizing the availability of grant funding and obtaining federal grant funding to support projects. This project will supplement MARAMA's activities in support of MDC.

The *Virginia Port Authority* was established in 1952, as a political subdivision of the Commonwealth of Virginia, for the purpose of performing any act or function which may be useful in developing, improving, or increasing the commerce of the ports of the Commonwealth, with the goal of conducting these activities in an environmentally sensitive and sound manner. Toward this goal, the Virginia Port Authority initiated a pilot program, the predecessor to the GO Program, in October 2007 to reduce diesel emissions from drayage trucks serving its Port of Virginia facility. As a partner, the Virginia Port Authority will continue to publicize the rebates available through the Virginia DEQ DERA2 Project and ensure that companies selected to receive the rebates are Green Operators.

### **Sustainability of State Program**

DEQ and its partners will work to continue sustaining the program by promoting awareness and integrating information about the program into their outreach efforts, including via the DEQ, the Virginia Port Authority, and MARAMA websites. Within 60 days of receiving the award, DEQ will post on its website a public notification that lists the project information, dollar amount of the grant and rebates, and the technology funded by the rebate.

### **Quality Assurance and Quality Control**

Not applicable. The proposed project does not involve environmentally related measurements or data generations that would need quality assurance and quality control plans and procedures.

## BUDGET NARRATIVE

### **Project Budget**

The 3 tables below provide the DEQ FY 2014 DERA project budget, MARAMA FY 2014 project budget, and MARAMA FY 2014 budget detail.

### **DEQ FY 2014 Project Budget**

	FY 2014		Total	
Budget Category	EPA Allocation	State Match	EPA Allocation	State Match
1. Personnel	\$1216	\$0	\$1216	\$0
2. Fringe Benefits	\$450	\$0	\$450	\$0
3. Travel	\$0	\$0	\$0	\$0
4. Supplies	\$0	\$0	\$0	\$0
5. Equipment	\$0	\$0	\$0	\$0
6. Contractual	\$0	\$0	\$0	\$0
7. Program Income	\$0	\$0	\$0	\$0
8. Other <sup>a</sup>	\$92,422	\$0	\$92,422	\$0
<b>9. Total Direct Charges</b>	<b>\$94,088</b>	<b>\$0</b>	<b>\$94,088</b>	<b>\$0</b>
10. Indirect Charges <sup>b</sup>	\$347	\$0	\$347	\$0
<b>Grand Total</b>	<b>\$94,435</b>	<b>\$0</b>	<b>\$94,435</b>	<b>\$0</b>

<sup>a</sup>Includes MARAMA's indirect costs, which are not considered administrative costs.

<sup>b</sup>DEQ's Indirect charges are not considered administrative costs.



**MARAMA FY 2014 Project Budget**

<b>Budget Category</b>	<b>FY 2014 Budget Allocation</b>	<b>Total</b>
<b>Direct Costs</b>		
Personnel	\$9,742	\$9,742
Fringe Benefits <sup>a</sup>	\$1,885	\$1,885
Travel	\$0	\$0
Supplies	\$43	\$43
Equipment	\$0	\$0
Contractual	\$0	\$0
Program Income	\$0	\$0
Other	\$71,723	\$71,723
<b>Total Direct Costs</b>	<b>\$83,393</b>	<b>\$83,393</b>
Indirect Costs <sup>b</sup>	\$9,029	\$9,029
<b>Total Cost</b>	<b>\$92,422</b>	<b>\$92,422</b>

<sup>a</sup>MARAMA's fringe rate is estimated to be 19.35% of direct personnel in FY2014.

<sup>b</sup>MARAMA's indirect costs are not considered administrative costs.

### MARAMA FY 2014 Budget Detail

Category	Notes	FY 2014 Budget Allocation	
Personnel			\$9,742
	Diesel Project Manager	\$8,251	
	Administrative Assistant	\$700	
	Executive Director	\$791	
Fringe			\$1,885
	Social Security (6.2% of salary)	\$604	
	Medicare (1.45% of salary)	\$141	
	Pension (for eligible employees)(est.)	\$1038	
	Health Insurance (Est. \$5106/yr/FTE for Admin Asst.& Exec. Dir.)	\$102	
Supplies	Office supplies & postage	\$43	\$43
Technology Deployment	Retrofit approximately 12 drayage trucks serving the port of Virginia with diesel filters, including installation costs. Maximum rebate \$6,000 per vehicle. Costs vary depending on the type of truck and filter as well as specific installation requirements.	\$71,723	\$71,723
Indirect Costs	MARAMA's indirect cost rate for FY 2014 is 92.68% of Direct Personnel costs.	\$9,029	\$9,029
<b>Total Costs</b>		<b>\$92,422</b>	<b>\$92,422</b>

#### **Explanation of Budget Framework**

**Administrative Costs:** States must demonstrate that no more than 15 percent of a State's total allocation from EPA is being used to cover administrative costs as identified in OMB Circular A-87 Appendix B (e.g., personnel, benefits, travel, supplies). The 15 percent maximum does not include indirect cost rates or funds assigned to projects through grants, rebates, and/or loans.

**The indirect costs of DEQ and MARAMA are not considered administrative costs.**

The administrative costs include everything except DEQ indirect costs (estimated \$347), MARAMA indirect costs (estimated \$9,029), and technology deployment costs (estimated \$71,723). The estimated total non-administrative costs are \$80,752. The administrative costs are estimated to be \$13,683 (\$94,435 project budget minus \$80,752 non-administrative costs). The administrative costs are expected to be 14.5 percent of the project budget.

Budget Categories:

1. Personnel

Virginia DEQ Position Number P0888, Major NSR Coordinator, Mr. Yogesh Doshi is expected to spend approximately 30 hours at an hourly rate of \$40.53 during FY2014 for a total of \$1,216.

	FY 2014		Total	
DEQ Personnel	EPA	State Match	EPA	State Match
PO888	\$1,216	\$0	\$1,216	\$0

MARAMA total personal costs are expected to be \$9,742 for the one-year budget period.

	FY 2014		Total	
MARAMA Personnel	EPA	State Match	EPA	State Match
Diesel Project Manager @ \$55,008/FTE x 0.15 FTE 2014	\$8,251	\$0	\$8,251	\$0
Administrative Assistant @ \$35,000 /FTE x 0.02 FTE 2014	\$700	\$0	\$700	\$0
Executive Director @ \$98,880/FTE x 0.008 FTE 2014	\$791	\$0	\$791	\$0
TOTAL	\$9,742	\$0	\$9,742	\$0

2. Fringe Benefits

Virginia's DEQ fringe benefits equate to 37.00% of salary for classified employees. It includes Virginia Retirement System retirement contributions (8.76%), Social Security (6.2%), Medicare (1.45%), group life insurance (1.19%), health care (17.32%), retiree health insurance credit (1%), VSDP & long term disability (0.47%), and defined contribution plan (0.61%).

	FY 2014		Total	
DEQ Fringe	EPA	State Match	EPA	State Match
DEQ fringe benefits of 37.00%	\$450	\$0	\$450	\$0

As provided in the "MARAMA FY 2014 Budget Detail" table MARAMA fringe benefits include Social Security (6.2% of salary), Medicare (1.45% of salary), pension (for eligible employees), and health insurance. The estimate for pension has decreased due to staffing changes, and the workers comp is removed because it is included in indirect costs.

	FY 2014		Total	
MARAMA Fringe	EPA	State Match	EPA	State Match
Social Security (6.2% of salary)	\$604	\$0	\$604	\$0
Medicare (1.45% of salary)	\$141	\$0	\$141	\$0
Retirement (for eligible employees)	\$1,038	\$0	\$1,038	\$0
Health Insurance (\$5106/yr/FTE for Admin Asst.)	\$102	\$0	\$102	\$0
TOTAL	\$1,885	\$0	\$1,885	\$0

3. Travel

No travel costs are budgeted for FY2014

4. Supplies

No DEQ supplies are budgeted. MARAMA has budgeted \$43 for office supplies and postage.

	FY 2014		Total	
MARAMA Supplies	EPA	State Match	EPA	State Match
Office supplies and postage costs	\$43	\$0	\$43	\$0

5. Equipment

No equipment has been budgeted for FY2014.

6. Contractual

No contractual expenses have been budgeted for FY2014.

7. Program Income

No program income is expected for FY2014.

8. Other

DEQ plans to establish a subrecipient agreement with MARAMA to administer this program. As a subrecipient, MARAMA will have responsibility for programmatic decision-making and responsibility to adhere to applicable federal programs compliance requirements. MARAMA's sub-award will be small (under \$500,000). DEQ has many years of experience in working with MARAMA. MARAMA has experience in as a grantee and a subrecipient. DEQ will monitor MARAMA's performance via quarterly activity and financial reports and periodic conference calls. DEQ's Air Director meets quarterly with MARAMA's Executive Director at MARAMA Board of Directors' meetings and will have both formal and informal opportunities to provide project oversight. This agreement will include funds for rebates.

Other	FY 2014		Total	
	EPA	State Match	EPA	State Match
Subaward with MARAMA	\$92,422	\$0	\$92,422	\$0

9. Direct Charges

Total direct costs (items 1-8 above) for FY2014 are estimated to be \$94,088. Please note that these estimated direct costs include MARAMA's estimated indirect costs of \$9,029 for FY2014.

10. Indirect Charges

DEQ's approved indirect cost rate is 28.5 percent of direct personnel charges (see attached). DEQ estimated indirect costs are \$347 for FY 2014.

MARAMA's indirect cost rate for FY2014 is 92.68% of direct personnel charges. MARAMA estimated indirect costs for FY 2014 are \$9,029.

DEQ and MARAMA indirect costs are not considered administrative costs.

**Match Requirements**

Under the State Clean Diesel Program, a match is not required for this grant.